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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 09/903,425 | 07/10/2001 | Hans-Stephan Albrecht | LMPY-12910 | 8935 |

7590 07/25/2003
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EXAMINER

VY, HUNG T

ART UNIT PAPER NUMBER

2828

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,425

Applicant(s)

ALBRECHT ET AL.

Examiner

Hung T Vy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.



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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. In response to the amendment filed on 05/03/2003, claims 1-19 are pending in this application as result of the cancellation of claim 20.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 3, 5 and 7, the claim fails to show the wavelength measurement system for perform a plurality function.

Claims 2,4,6, and 8-19 depend from rejected claim 1, 3, 5 and 7 thereby render these dependent claims indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

Claims 1-14 are rejected under 35 U. S. C. § 102 (e) as being anticipated by Everage et al., U.S. patent No. 6,078,599.

Regarding claims 1-9, Everage et al. discloses a compensating optical drift of a wavelength measurement system, comprising the steps of:

(a) operating the laser system including generating a laser beam (38) and directing a beam portion through the wavelength measurement system (40)(Fig 4);

(b) Calibrating the wavelength measurement system to an absolute reference (42), further, fig 2, 3 show on graph show the negative value and positive value, in order to perform this function, they should have absolute reference;

(c) Determining the wavelength (42) of the laser beam, said wavelength determining step comprising the steps of:

(i) transmitting wavelength information measured by said wavelength measurement system;

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(ii) retrieving a drift compensation value stored as corresponding to a current laser system operating condition; and

(iii) calculating the wavelength of the laser beam based on the transmitted wavelength information and the retrieved drift compensation value (See fig. 6) ; and

(c) tuning (See column 2, line 62-65) the output beam to a target (40) wavelength using the wavelength measurement system (See fig 4);

(d) detecting a measured wavelength of the output beam using the wavelength measurement system after a predetermined period of laser operation (See fig. 4, 42 is computer system so the computer will predetermined period of laser operation).

(e) calculating a compensated wavelength by figuring in a previously determined drift compensation value(See fig. 5 and 6); and

(f) adjusting the wavelength of the laser beam to the target wavelength when the compensated wavelength differs from the target wavelength (See 4, 5 and 6).

Regarding claims 10-14, Everage et al. discloses the wavelength measurement system comprises a monitor etalon (See column 1, line 18-32), the drift compensation values are determined by comparing wavelength values determined using the monitor etalon with values determined using a calibrated spectrometer (it is inherent that the computer 46 and 40) in a test run. It is inherent that the drift compensation values are tabulated with each entry in a table corresponding to a drift compensation value at a different amount of laser operation for a give set of laser operation conditions because Everage et al disclose the computer system (46) and laser wavelength detection device (40).

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-19 rejected under 35 U.S.C. 103 (a) as being unpatentable over Everage et al., U.S. patent No. 6,078,599 in view of Myers et al., U.S. Patent No. 6,128,323.

Regarding claims 15-19, the methods of compensating optical are considered as apparatus by process steps. Therefore, Everage et al. disclose a compensating optical drift of a wavelength measurement system, wherein different tables are generated corresponding to differing values of laser operation conditions (in computer system and laser wavelength detection device) but Everage et al. do not disclose the amount of laser operation is measured versus a parameter that generally increases as the laser operates, wherein that parameter is selected from the group of parameters consisting of as time, pulse count, input energy to the discharge, and total output energy and at least one condition selected from the group of conditions consisting of repetition rate, burst rate, output power, optical arrangement, discharge conditions, gas mixture composition, gas mixture age, age of laser chamber and age of resonator optics. However, Mysers

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et al. disclose parameters consisting as time, pulse count (See column 11, line 60), and gas mixture composition (See column 17, line 6-22)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify to have a parameter that generally increases as the laser operates because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention. It would have been obvious to provide Everage et al. with the limitation as taught and suggested by Myers et al.

5. Claims 1-19 are rejected under 35 U. S. C. § 102 (b) as being anticipated by Das et al., U.S. patent No. 5,835,520.

Regarding claims 1-19, Das et al. discloses a compensating optical drift of a wavelength measurement system, comprising the steps of:

(a) operating the laser system (2) including generating a laser beam and directing a beam portion through the wavelength measurement system (Fig 1,6, and 8);

(b) Calibrating the wavelength measurement system to an absolute reference
(See column 6, line 23-33)

(c) tuning (See column 6, line 10-23) the output beam to a target wavelength using the wavelength measurement system (See fig 1,6, and 8);

(d) detecting a measured wavelength of the output beam using the wavelength measurement system after a predetermined period of laser operation (See column 5, line 13-25).

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(e) calculating a compensated wavelength by figuring in a previously determined drift compensation value(See column 6, line 19-22); and

(f) adjusting the wavelength of the laser beam to the target wavelength when the compensated wavelength differs from the target wavelength (See 1,6 and 8).

Citation of Pertinent References

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Das et al. discloses Wavelength Reference for Excimer Laser, U.S. Patent No. 5,978,391.

Conclusion

7. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung VY whose telephone number is (703) 605-0759. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Hung T. Vy
Art Unit 2828
June 3, 2003


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